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TWO NEW AMERICAN DIPTERA WITH NOTES ON *ASEMOSYRPHUS* BIGOT

BY C. H. CURRAN

The receipt of specimens of *Asemosyrphus* Bigot from Central America shows that there has been considerable confusion concerning the identity of the species in the genus. The present opportunity is taken to clarify the situation in regard to the species of this genus, and to present descriptions of two other American forms recently received for identification. The types are in the American Museum Collection.

Asilidae

Cyrtopogon chagnoni, new species

Black, the third antennal segment and the legs in part, reddish yellow; abdomen with transverse pollinose spots. Related to *marginalis* Loew but at once distinguished by the densely black pilose front and wholly limpid wings. Length, 12.5 mm.

MALE.—Front without distinct pollen, densely long black pilose, the black hair extending along the posterior orbits, over the whole of the cheeks and up the sides of the face; occiput and face with thick pale yellowish pile, the face with cinereous, the occiput with thin cinereous yellow pollen. Antennae blackish, the third segment dull reddish yellow; style black, one-third as long as the third segment.

Mesonotum dulled by yellowish-brown pollen, the sides broadly shining black, the scutellum with the sides shining; pile pale yellowish in the middle and posteriorly, very broadly black on the sides, wholly pale on the scutellum and on the pleura; pleura cinereous yellow pollinose.

Legs black, the tibiae reddish on the basal half or less, the black produced toward the base on the under surface; anterior four tarsi reddish yellow or reddish. Pile white, black on the apical half of the anterior surface except above, and on the ventral surface of the tibiae.

Wings wholly hyaline, the veins brown. Squamae reddish yellow. Halteres brown with pale yellow knobs.

Abdomen shining black, with rather abundant pile laterally, the second to fourth segments each with a very broadly interrupted cinereous pollinose posterior fascia. Pile black and whitish: white on the basal two segments except for a large median tuft on the sides of the second segment, on the third segment rather similar to the second but the black pile extends onto the dorsum; fourth to seventh segments black pilose except on the apices and sides. Genitalia shining black, pale pilose, the basal bulbous portion with black hair. Venter wholly pale pilose.

HOLOTYPE.—Male, Quebec, Canada, June 10, 1934, received from Mr. G. Chagnon.

Syrphidae

ASEMOSYRPHUS BIGOT

It has been generally accepted that this genus contains only two or three valid species, despite the fact that at least eight forms have been described, all but two of them from Mexico. An examination of the material in the Museum Collection proves that there are at least four species, all separable to a limited extent by color and the arrangement of the opaque pollen on the abdomen and thorax and by the width of the front, color of pile, etc.

The selection of the genotype by Coquillett is not entirely clear because he lists the first three names included by Bigot as synonyms of *mexicanus* Macquart, whereas the first, *bicolor*, is a very distinct species. The following two are probably not *mexicanus* which was described as having the upper section of the front black-haired. Macquart stated that his specimen was a female but it was probably a male. Bigot was unable to distinguish between the two sexes but his *bicolor* was a male. The other forms described by Bigot and Giglio-Tos are scarcely recognizable from the descriptions and the types must be examined before their identity can be established.

I have had no difficulty in separating the four species in the collection on the characters used in the following key.

TABLE OF SPECIES

1.—Abdomen shining black, without pollinose spots.....*willingi* Smith.
Abdomen with arcuate pollinose spots and usually partly reddish.....2.
2.—Upper half of the front black pilose, only the immediate vertex with yellow pile.....*mexicana* Macquart.
Front yellow pilose with a black band across the middle.....3.
3.—Posterior tibiae reddish yellow; fourth abdominal segment opaque on more than the basal third in the middle..*bicolor* Bigot.
Posterior tibiae brownish red to mostly brownish; fourth segment opaque on less than the basal fourth in the middle.....*polygrammus* Loew.

Asemosyrphus mexicanus Macquart

Helophilus mexicanus MACQUART, 1842, Dipt. Exot., II, part 2, p. 64 (f.).

I have only a single male from Guatemala but it agrees perfectly with the description. It and *willingi* Smith have the front mostly black pilose but *willingi* lacks pale abdominal lunules and has no pale pile on the front. In *mexicanus* the upper section of the front is wholly black pilose and there are black hairs in the middle of the lower section. If Macquart's specimen was a female as stated, this sex may be easily separated from the other species, but it is possible that the yellow frontal pile in the female is more extensive. This species is considerably smaller than *polygrammus* Loew but the two possibly intergrade in size as very small specimens of *polygrammus* may be no more than 8 mm. in length. The facial tubercle is broader and less carinate than in the other forms, being rather sharply cut off below.

Asemosyrphus polygrammus Loew

Helophilus polygrammus LOEW, 1872, Berl. Ent. Zeitschr., XVI, p. 85.

This is the common species occurring over the western United States and southern Canada. It has usually gone under the name *mexicanus* but there are no authentic records of this latter from the United States. The front in both sexes is yellowish pilose with a band of black across the lower half or less of the upper section; in the middle of the black band there are yellow hairs intermixed and these may sometimes divide the band into two spots. The length ranges from 9.5 to 12 mm., almost all specimens being over 10.5 mm.

Asemosyrphus bicolor Bigot

BIGOT, 1882, Bull. Soc. Ent. France, p. cxxviii.

BIGOT, 1883, Ann. Soc. Ent. France, p. 350.

A very distinct species because of the dull orange abdomen of the male, with triangularly black base, and the reddish abdomen of the female with its dull black median vitta. The black pilose frontal band of the female may be broadly interrupted. The posterior tibiae in both sexes are paler than in the other species. None of my specimens, all from Mexico City, exceed 10 mm. in length.

Asemosyrphus willingi Smith

Helophilus willingi SMITH, 1912, Proc. Ent. Soc. Wash., XIV, p. 118.

Asemosyrphus canadensis CURRAN, 1922, Can. Ent., LIV, p. 94.

A distinctly northern species with shining black abdomen and wholly black pilose front. I have seen it only from Manitoba, Saskatchewan and Alberta but it undoubtedly occurs in the northern states.

Muscidae

KEY TO SOUTH AMERICAN SPECIES OF *Hydrotaea* DESVOIDY

1.—Squamae brownish in both sexes.....*cyaneiventris* Macquart.
Squamae whitish or yellowish.....2.
2.—Eyes with distinct pile.....*villosa* Stein.
Eyes bare.....*nicholsoni*, new species.

Hydrotaea nicholsoni, new species

Black, with pale pollen; front femora with blunt bristles basally. Length, 7.5 to 8 mm.

MALE.—Head with silvery-white pollen, the parafrontals bare on more than the upper half. Front conspicuously wider than the ocellar triangle, only slightly narrowed above the middle; frontals strong and numerous; ocellars long and strong; verticals not distinct. Hair wholly black. A row of upturned hairs near the upper edge of the cheeks ending in a strong, curved bristle near the oral angles. Parafacials wide, gently tapering below. Palpi and antennae black; arista pubescent on basal half.

Mesonotum thinly brownish cinereous pollinose, in some lights with two pollinose vittae in front, but usually almost all shining black. Pleura very thinly silvery pollinose. Scutellum

thinly grayish pollinose, with two pairs of marginals and a pair of discal bristles. Hair wholly black; two presutural acrosticals; four postsutural dorsocentrals; prealar about one-third as long as the following bristle.

Legs shining black, the tarsi dull. Anterior femora with a complete posteroventral row of bristles ending in a row of six shorter, coarser, rather blunt ones on the anterior surface of the anterior process, and with five or six stout blunt tipped bristles basally; anterodorsally with an entire row of bristles; between the upper and lower rows with long, erect hair. Anterior tibiae flattened or gently concave on the basal half beneath, on the anterodorsal surface with a row of four or five bristles confined to the apical half. Middle femora with two rows of long bristles in front extending from the base to a little beyond the middle; constricted on the apical third; on the posteroventral surface with a row of seven or eight bristles most of which are blunt-tipped and between the rows of bristles with long hairs. Middle tibiae simple and bearing only two bristles, on the posterodorsal surface. Posterior femora with a row of bristles on the apical half of the anteroventral surface and with a complete anterodorsal row, the hair long and fine on the ventral surface. Posterior tibiae with a row of bristly hairs on the basal half of the anterodorsal surface and with only the calcar posterodorsally.

Wings tinged with brown; fourth vein rather strongly curved forward apically. Squamae pale yellowish. Knob of halteres black.

Abdomen with grayish pollen and with a dull black vitta on the basal three segments.

Types.—Holotype, male, and five paratypes, males, Arequipa, Peru (Carlos Nicholson).